UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,177	10/30/2001	Maria-Luisa Maccecchini	SYM 117	1396

23579 7590 07/01/2003

PATREA L. PABST
HOLLAND & KNIGHT LLP
SUITE 2000, ONE ATLANTIC CENTER
1201 WEST PEACHTREE STREET, N.E.
ATLANTA, GA 30309-3400

EXAMINER	
SPIVACK, PHYLLIS G	
ART UNIT	**PAPER NUMBER**
1614	

DATE MAILED: 07/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
10/021,177	Maccecchini et al.
Examiner	**Art Unit**
Phyllis G. Spivack	1614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Mar 26, 2003* .

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-9* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Applicants' Response to the Election of Species Requirement with traverse, filed March 26, 2003, Paper No. 8, is acknowledged. Applicants have elected the species SYM 2081, SYM 2083, SYM 2062 and SYM 2051. No reasons for the traversal are advanced.

It is noted no Information Disclosure Statement with accompanying Form PTO-1449 has been filed

A list of co-pending and related cases is requested when Applicants respond to this Office Action.

Claims 6, 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

The recitations "R^3 and R^4 taken together can be $-CH_2(CH2)_nCH_2-$ (or, $_m$) wherein n is 0, 1, 2 or 3" in claims 6, 8 and 9; and, "R^5 and R^6 (or, R^6 and R^7) taken together can be $-CH_2(CH_2)_kCH_2-$ wherein $_k$ is 0, 1, 2 or 3" in claims 8 and 9, lack clarity. It is unclear whether or not the nitrogen atom combines with the chain to form a ring. Further, the recitation "can be" renders the claims indefinite.

Claim 7 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. There is no definition for the "Ar" term in the formula in claim 7 in the specification as filed.

Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for treating seizures and depression, does not reasonably provide enablement for any disease, condition or disorder involving glutamate levels. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

The claims are directed to the treatment of any disease, condition or disorder involving glutamate levels comprising administering a transporter compound that is a ligand, agonist or antagonist of glutamate receptors. The specification provides support for the inhibition of binding of [^{3}H]-4MG (4-methylglutamate), a prototype of the disclosed transporter compounds, comprising administering a series of compounds designated SYM to affect glutamate transporters.

Attention is directed to In re Wands, 8 USPQ2d 1400 where the court set forth factors to consider when assessing whether or not a disclosure would require undue experimentation. These factors are:

1) the quantity of experimentation necessary

2) the amount of direction or guidance provided

3) the presence or absence of working examples

4) the nature of the invention

5) the state of the art

6) the relative skill of those in the art

7) the predictability of the art and

7) the predictability of the art and

8) the breadth of the claims.

The instant specification fails to provide guidance that would allow the skilled artisan background sufficient to practice the instant invention without resorting to undue experimentation in view of further discussion below.

The nature of the invention, state of the prior art, relative skill of those in the art and the predictability of the art

The claimed invention relates to treatment of any disease, condition or disorder involving glutamate levels.

The relative skill of those in the art is generally that of a Ph.D or M.D.

Each particular neuropsychopharmacological disorder has its own specific characteristics and etiology. The broad recitation "treating a disease, condition or disorder involving glutamate levels and transport of, or activation by, excitatory amino acids" is inclusive of many conditions that presently have no established successful therapies.

It is clear the art to which the present invention relates is highly unpredictable and unreliable with respect to conclusions drawn from laboratory data extrapolated to clinical efficacy.

The breadth of the claims

The claims are very broad and inclusive of any disease, condition or disorder involving glutamate levels.

The amount of direction or guidance provided and the presence or absence of working examples

The working example is directed to the binding of 4-MG to brain tissue.

The quantity of experimentation necessary

Applicants have failed to provide guidance as to which particular transporter compound would be preferred for treatment of the many other diseases, conditions or disorders that are involved with glutamate levels. Each of the disease states and medical conditions that are disclosed in the specification is very specific and highly unpredictable absent a clear understanding of the structural and biochemical basis for each agent. The instant specification sets forth no such understanding nor any criteria for extrapolating beyond the showing of transporter compounds that inhibit the binding of 4MG. Conclusions drawn from laboratory data do not lead to a reasonable *a priori* expectation of success because one skilled in the neurology art would have to test extensively many agents to discover which particular transporter compound is effective in a treatment modality. Since each prospective embodiment, as well as future embodiments as the art progresses, would have to be empirically tested, undue experimentation would be required to practice the invention as it is claimed in its current scope. The specification provides inadequate guidance to do otherwise.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Gu, Z-Q, U.S. Patent 5,731,348.

Gu teaches methods of treating a disease, condition or disorder involving glutamate levels and involving transport of, or activation by, excitatory amino acids comprising administering transporter compounds of formula I in column 7. Further, see the illustrative compounds in column 7, lines 61-65, which includes the elected species of claim 6, as well as the transporter compound of claim 7 that is saturated.

The elected species of claims 7-9 appear to be free of the prior art.

Any inquiry concerning this communication should be directed to Phyllis Spivack at telephone number 703-308-4703.

June 28, 2003

Phyllis Spivack

PHYLLIS SPIVACK
PRIMARY EXAMINER